



# UNITED STATES PATENT AND TRADEMARK OFFICE

*all*  
UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/734,985	12/12/2003	Yang Pan	MBIO98-048CP2CN1M	2603

7590 06/14/2006

MILLENNIUM PHARMACEUTICALS, INC.  
40 Landsdowne Street  
Cambridge, MA 02139

EXAMINER

O HARA, EILEEN B

ART UNIT PAPER NUMBER

1646

DATE MAILED: 06/14/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/734,985

Applicant(s)

PAN, YANG

Examiner

Eileen B. O'Hara

Art Unit

1646

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 1 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 29-48 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☐ Claim(s) \_\_\_\_ is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☒ Claim(s) 29-48 are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date ____. | 6) <input type="checkbox"/> Other: ____.  |

## DETAILED ACTION

### *Election/Restrictions*

Restriction to one of the following inventions is required under 35 U.S.C. 121:

- I. and II. Claims 29-34, drawn to murine polynucleotides of TANGO-93, SEQ ID NOS: 1 and 3, encoding polypeptide of SEQ ID NO: 2, and to human polynucleotides of TANGO-93, SEQ ID NOS: 4 and 6, encoding polypeptide of SEQ ID NO: 5, respectively, and vectors, host cells and a method for producing a polypeptide recombinantly, classified in class 536, subclass 23.5, class 435, subclasses 320.1, 252.3 and 69.1, for example.
- III. and IV. Claims 35-36, drawn to murine and human TANGO-93 polypeptides, respectively, classified in class 530, subclass 350.
- V. and VI. Claims 37 and 41, drawn to antibodies which selectively bind murine or human TANGO-93 polypeptide, respectively, classified in class 530, subclass 388.22, for example.
- VII. and VIII. Claims 39-40, 44-46, drawn to methods of detecting or methods of identifying a compound which binds to or modulates the activity of or effects expression or activity of a murine or human TANGO-93 polypeptide, respectively, in cells encoding the polypeptide, classified in class 435, subclass 7.1, for example.
- IX. and X. Claims 42-43, drawn to method of detecting murine or human nucleic acid by hybridization, respectively, classified in class 435, subclass 6.

Art Unit: 1646

XI and XII. Claims 47-48, drawn to methods of administering a test compound of unknown composition to a non-human mammal to determine the effect of the test compound on TANGO-93 expression or activity, or to determine the effect of the test compound on an inflammatory disorder, classified in class 514, subclass 2.

2. The inventions are distinct, each from the other because of the following reasons:

Inventions I and II are distinct in that they are nucleic acid species orthologs, murine and human, which have different sequences and which would require separate sequence searches.

Inventions III and IV are distinct in that they are polypeptide species orthologs, murine and human, which have different sequences and which would require separate sequence searches.

Inventions III and IV are distinct in that they are antibodies to polypeptide species orthologs, murine and human, which have different sequences and which would require separate sequence searches.

Inventions I and II, III and IV and V and VI are independent and distinct, each from each other, because they are products which possess characteristic differences in structure and function and each has an independent utility that is distinct for each invention which cannot be exchanged.

The polynucleotides of **Groups I and II** and the polypeptides of **Groups III and IV** are patentably distinct for the following reasons: polypeptides, which are composed of amino acids, and polynucleotides, which are composed of purine and pyrimidine units, are structurally distinct molecules; any relationship between a polypeptide and polynucleotide is dependent upon the information provided by the nucleic acid sequence open reading frame as it corresponds to the primary amino acid sequence of the encoded polypeptide. Furthermore, searching the inventions of **Groups I and II and III and IV** together would impose a serious search burden. In the instant case, the search of the polypeptides and the polynucleotides is not coextensive. The inventions of **Groups I and II and III and IV** have a separate status in the art as shown by their

Art Unit: 1646

different classifications. In cases such as this one where descriptive sequence information is provided, the sequences are searched in appropriate databases. There is also search burden in the non-patent literature. Prior to the concomitant isolation and expression of the sequence of interest there may be journal articles devoted solely to polypeptides which would not have described the polynucleotide. Similarly, there may have been "classical" genetics papers which had no knowledge of the polypeptide, but spoke to the gene. Searching, therefore, is not coextensive. Furthermore, a search of the nucleic acid molecules of **Groups I and II** would require an oligonucleotide search, which is not likely to result in relevant art with respect to the polypeptide of Group I. As such, it would be burdensome to search the inventions of **Groups I and II with Groups III and IV**.

The polypeptides of **Groups III and IV** and the antibodies of **Groups V and VI** are patentably distinct for the following reasons: while the inventions of both **Groups III and IV and Groups V and VI** are polypeptides, in this instance, the polypeptides of **Groups III and IV** are single chain molecules, whereas the polypeptides of **Groups V and VI** encompasses antibodies including IgG which comprises 2 heavy and 2 light chains containing constant and variable regions, including framework regions which act as a scaffold for the 6 complementary determining regions (CDRs) that function to bind an epitope. Thus, the polypeptides of **Groups III and IV** and the antibodies of **Groups V and VI** are structurally distinct molecules; any relationship between a polypeptides of **Groups III and IV** and an antibodies of **Groups V and VI** is dependent upon the correlation between the scope of the polypeptides that the antibody binds and the scope of the antibodies that would be generated upon immunization with a polypeptide.

In this case, the polypeptides of **Groups III and IV** a large molecule which contains are potentially hundreds of regions to which an antibody must bind, whereas the antibodies of **Groups V and VI** are defined in terms of its binding specificity to a small structure within **the disclosed SEQ ID NO**. Thus, immunization with the polypeptidess **III and IV** would result in the production of antibodies outside the scope of **Groups V and VI**. Therefore, the polypeptide and antibody are patentably distinct.

Furthermore, searching the inventions of **Groups III and IV** and **Groups V and VI** would impose a serious search burden. The inventions have a separate status in the art as shown by their different classifications. A polypeptide and antibody which to the polypeptide require different searches. An amino acid search of the full-length protein is necessary for a determination of novelty and unobviousness of the protein. However, such a search is not required to identify the antibodies of **Groups V and VI**. Furthermore, antibodies which bind to an epitope of a polypeptides of **Groups III and VI** may be known even if a polypeptide of **Group III or IV** is novel. In addition, the technical literature search for the polypeptide of **Groups III and VI** and the antibodies of **Groups V and VI** is not coextensive, e.g. antibodies may be characterized in the technical literature prior to discovery of, or sequencing of, their binding target.

The polynucleotides of **Groups I and II** and the antibodies of **Groups V and VI** are patentably distinct for the following reasons: the antibodies of **Groups V and VI** includes, for example, IgG which comprises 2 heavy and 2 light chains containing constant and variable regions, including framework regions which act as a scaffold for the 6 complementary determining regions (CDRs). Polypeptides, such as the antibodies of **Groups V and VI** which are composed of amino acids, and polynucleotides, which are composed of nucleic acids, are structurally distinct molecules. Any relationship between a polynucleotide and polypeptide is dependent upon the information provided by the nucleic acid sequence open reading frame as it corresponds to the primary amino acid sequence of the encoded polypeptide. In the present claims, a polynucleotides of **Groups I and II** will not encode an antibody of **Groups V and VI**, and an antibody of **Groups V or VI** cannot be encoded by a polynucleotide of **Group I or II**. Therefore, the antibody and polynucleotide are patentably distinct.

The antibody and polynucleotide inventions have a separate status in the art as shown by their different classifications. Furthermore, searching the inventions of **Groups I and II** and **Groups V and VI** would impose a serious search burden since a search of the polynucleotide of

Art Unit: 1646

**Groups I or II** would not be used to determine the patentability of an antibodies of **Groups V or VI** and vice-versa.

Inventions I and II are related to inventions IX and X as product and process of use. The inventions can be shown to be distinct if either or both of the following can be shown: (1) the process for using the product as claimed can be practiced with another materially different product or (2) the product as claimed can be used in a materially different process of using that product (MPEP § 806.05(h)). In the instant case the nucleic acids could be used in the method of hybridization, but they could also be used in a method of making polypeptide, which is a materially different method.

Inventions I and II are unrelated to inventions VII and VIII or XII and XII. Inventions are unrelated if it can be shown that they are not disclosed as capable of use together and they have different modes of operation, different functions, or different effects (MPEP § 806.04, MPEP § 808.01). In the instant case the nucleic acids of inventions I and II are not used in the methods of inventions VII and VIII or XII and XII.

Inventions III and IV are related to inventions VII and VIII as product and process of use. In the instant case the polypeptides can be used in a method of identifying compounds that bind to or modulate the activity of the polypeptide, but the polypeptides can also be used in a method of making antibodies, which is a materially different method.

Inventions III and IV are unrelated to inventions IX and X or XI and XII. The polypeptides are not used in the methods.

Inventions V and VI are related to inventions VII and VIII and inventions XI and XII as product and process of use. In the instant case the antibodies can be used in a method of

Art Unit: 1646

detecting the polypeptides of inventions VII and VIII, but they can also be used in a method of treatment of inventions XI and XII, which is a materially different method.

Inventions V and VI are unrelated to inventions IX and X. In the instant case the antibodies are not used in the methods of detecting nucleic acid.

Each of Inventions VII and VIII, IX and X and XI and XI are unrelated to each other. Though the inventions are methods, they have different methods steps, goals and use different compositions, and are patently distinct.

Because these inventions are distinct for the reasons given above, have acquired a separate status in the art as shown by their different classification and/or different search requirements, and the search required for each group is not required for the other groups because each group requires a different non-patent literature search due to each group comprising different products and/or method steps, restriction for examination purposes as indicated is proper.

Applicant is advised that the reply to this requirement to be complete must include an election of the invention to be examined even though the requirement be traversed (37 CFR 1.143).

Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the



Art Unit: 1646

currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

**Rejoinder Under Ochiai/Brouwer**

The examiner has required restriction between product and process claims. Where Applicant elects claims directed to the product, and a product claim is subsequently found allowable, withdrawn process claims that depend from or otherwise include all the limitations of the allowable product claim will be rejoined in accordance with the provisions of MPEP § 821.04.

**Process claims that depend from or otherwise include all the limitations of the patentable product** will be entered as a matter of right if the amendment is presented prior to final rejection or notice of allowance, whichever is earlier. Amendments submitted after final rejection are governed by 37 CFR 1.116; amendments submitted after allowance are governed by 37 CFR 1.312.

In the event of rejoinder, the requirement for restriction between the product claims and the rejoined process claims will be withdrawn, and the rejoined process claims will be fully examined for patentability in accordance with 37 CFR 1.104. Thus, to be allowable, the rejoined claims must meet all criteria for patentability including the requirements of 35 U.S.C. 101, 102, 103, and 112. Until an elected product claim is found allowable, an otherwise proper restriction requirement between product claims and process claims may be maintained. Withdrawn process claims that are not commensurate in scope with an allowed product claim will not be rejoined.

See "Guidance on Treatment of Product and Process Claims in light of *In re Ochiai*, *In re*

Art Unit: 1646

*Brouwer* and 35 U.S.C. § 103(b),” 1184 O.G. 86 (March 26, 1996). Additionally, in order to retain the right to rejoinder in accordance with the above policy, Applicant is advised that the process claims should be amended during prosecution either to maintain dependency on the product claims or to otherwise include the limitations of the product claims. **Failure to do so may result in a loss of the right to rejoinder.**

Further, note that the prohibition against double patenting rejections of 35 U.S.C. 121 does not apply where the restriction requirement is withdrawn by the examiner before the patent issues. See MPEP § 804.01.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Eileen B. O'Hara, whose telephone number is (571) 272-0878. The examiner can normally be reached on Monday through Friday from 10:00 AM to 6:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gary Nichol can be reached at (571) 272-0835.

The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Any inquiry of a general nature or relating to the status of this application should be directed to the Group receptionist whose telephone number is (571) 272-1600.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://portal.uspto.gov/external/portal/pair>. Should you have questions on access to

Art Unit: 1646

the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll free).

Eileen B. O'Hara, Ph.D.

Patent Examiner

  
EILEEN B. O'HARA  
PRIMARY EXAMINER